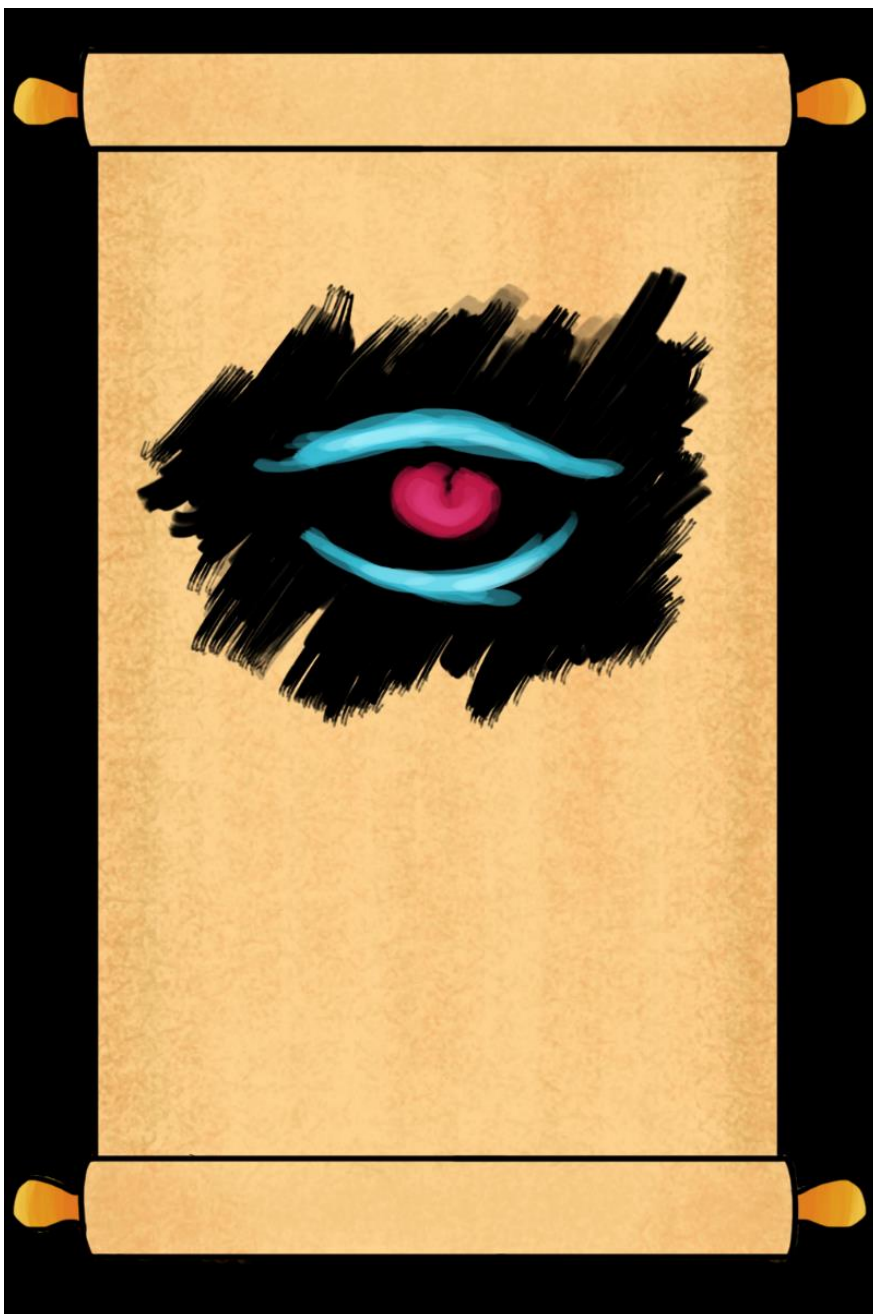


Samuli Kuosa

Designing a card game



Tradenomi
Tietojenkäsittely

Kevät 2016



KAJAANIN
AMMATTIKORKEAKOULU
UNIVERSITY OF APPLIED SCIENCES

TIIVISTELMÄ

Tekijä: Kuosa Samuli

Työn nimi: Designing a card game

Tutkintonimike: Tradenomi, Tietojenkäsittely

Asiasanat: Korttipelit, keräilykorttipelit, pelisuunnittelu, pelinkehitys

Tässä opinnäytetyössä käsittelen korttipelejä, pelisuunnittelua sekä pelinkehitystä, päätavoitteenani on suunnitella ja kehittää oma korttipeli.

Opinnäytetyön alussa esittelen keräilykorttipeli genren. Tämän jälkeen tarkastelen pelisuunnittelun perusteita ja pelinkehitysprosessia sekä tutustun Mark Rosewaterin artikkeliin "Ten things every game needs". Rosewaterin artikkelia hyödynnän myöhemmin tarkastellessani lähemmin ja analysoidessani pelejä Magic: the gathering ja Hearthstone. Analysoin myös omakohtaisten kokemusteni perusteella fyysisen ja digitaalisen korttipelin eroja.

Opinnäytetyön loppuosassa esittelen oman pelini kehitysprosessia ja raportoin sen etenemisestä. Analysoin myös peliä soveltaen aikaisemmissa analyyseissä käytettyjä Rosewaterin kriteerejä. Lopussa myös tarkastelen mihin asti olen pelisuunnittelussa edennyt ja mikä on projektin tulevaisuus.

ABSTRACT

Author: Kuosa Samuli

Title of the Publication: Designing a card game

Degree Title: Bachelor of Business Administration, Business Information Technology

Keywords: Card games, collectible card games, game design, game development

In this thesis I will talk about card games, game design and game development, my main goal is to design and develop my own card game.

In the beginning of the thesis I will introduce the collectible card game genre. After this I will examine game design basics and the game development process and get familiar with Mark Rosewaters article "Ten things every game needs". I will later make use of Rosewaters article as I examine closer and analyze the games Magic: the gathering and Hearthstone. I will also use my own experiences to analyze the differences between a physical and digital card games.

At the end part of the thesis I will present my own games development process and report of its progress. I will also analyze my game using Rosewaters criteria which I used in the earlier analyses. In the final part I will also examine where I have gotten with the game design and what is the future of the project.

CONTENTS

1 INTRODUCTION	1
2 COLLECTIBLE CARD GAMES	2
2.1 Characteristics.....	2
2.2 Other Card Games	8
3 DESIGNING AND DEVELOPING A GAME.....	10
3.1 Basic development structure	10
3.2 Ten things every game needs	12
3.3 Designing complex cards	16
4 ANALYZING CARD GAMES	18
4.1 Magic: the Gathering	18
4.1.1 Description	18
4.1.2 Goal.....	18
4.1.3 The five colors.....	19
4.1.4 Attacking and blocking	22
4.1.5 Analysis.....	23
4.2 Hearthstone.....	26
4.2.1 Description	26
4.2.2 Goal.....	27
4.2.3 The nine classes	27
4.2.4 Analysis.....	28
4.3 Physical vs digital game	33
5 CREATING MY OWN GAME	36
5.1 Getting Started	36
5.2 Design and Development	37
5.2.1 First Prototype.....	37
5.2.2 Second Prototype.....	40
5.2.3 Analysis.....	43
5.2.4 Creating art for my game.....	46
5.3 Conclusion and the future	48

6 REFERENCES.....	50
-------------------	----

1 INTRODUCTION

People have been playing different kinds of games for a long time and card games have been around for a quite some time. The first card game mentioned in history was in 9th century China. It is believed card games first surfaced there, as paper was invented in China. Card games first landed on Europe in around the 14th century, likely through the Islamic empire and Egypt. In Europe many card game variants were born, and of these evolved the modern playing cards. The most widespread of them being the French playing cards. (The international playing-card society)

In 1993 a new kind of card game emerged. Invented by Richard Garfield, Magic: the Gathering was released and became the first collectible card game. Magic became a big hit and soon many other collectible card games were made and the genre quickly became very popular. Magic still exists today with around twenty million players in 2015. Some of the other famous and popular collectible card games today include Hearthstone, Pokemon, Duel Masters and Yu-Gi-Oh. (Duffy 2015, Superdata 2010)

Many other card game types have since been made, many of them having been inspired by Magic and other collectible card games. For example today a new genre exists called “deck building games”, which thrives on the joy of building a deck, an important part of collectible card games that many enjoy. In these deck building games the goal is to build a deck during the actual game rather than before the match. (Meople's Magazine 2011)

This thesis will study card games, mainly collectible ones and especially Magic and Hearthstone. Another object of study is game design, focusing on it from the perspective of card game design. This thesis also aims to analyze these games and to create a new card game.

2 COLLECTIBLE CARD GAMES

Collectible card games is a relatively new genre of card games that has quickly become very popular around to world. They mix the experience of card collecting and playing, and add in the thrill of building a deck yourself.

2.1 Characteristics

This part will go through some common characteristics of collectible card games, some of them which set them apart from other games

Card Packs

Collectible card games are different from most other games as you cannot buy all of the content right away, and you do not even need to. For example Magic features different intro packs for beginning players which give certain cards for them so they can start building a deck, but most cards are opened from booster packs. Booster packs or “boosters” are small packs of cards with more or less random selection of cards inside. Boosters and other similar kinds of card packs are a very common way of selling collectible card games. (Meople’s Magazine 2011, Wizards of the Coast)

It is very common for a player to first buy a starter set when beginning to play. Then as player becomes more invested in the game, he will often start buying booster packs, and possibly move on to buy single cards from the secondary market. (Meople’s Magazine 2011)

Expansions

Collectible card games feature expansions, and they basically live from them. In order to keep players buying cards and the game interesting and fresh, new expansions are published. These expansions also provide the chance to create different kinds of gameplay and formats. (Ham, 2010)

Secondary market

Because a big part of the game is collecting the cards one needs for the deck, and as the cards generally come from card packs, collectible card games often have a booming secondary market. When a player wants to improve his deck and is searching for a specific card, it is generally much cheaper to buy the card directly rather than buying a number of boosters and hoping to find the card. If it is a rarer, more valuable card, the chance of opening it from a card pack could be very small. (Superdata 2010)

Life points and victory conditions

A very common feature of collectible card games is the usage of life points. Many collectible card games are flavor- or story-wise about a duel between two characters, be it all powerful wizards or just regular people. The characters then attack one another with different minions or spells for example and the game ends when one of the players has his life reduced to zero. (Gamepedia, Wizards of the Coast)

Other means to finish the game do exist, sometimes the life points and direct damage aspect might be missing altogether, and sometimes different ways to win might coexist alongside them. Other win conditions might be the collection of victory points or destroying specific cards from the opponent's side. Also in some games it is possible to lose if a player runs out of cards in his deck. Even in those where running out of cards does not mean instant loss, the said player is

naturally at a severe disadvantage. This can allow players to build decks that are built to simply outlast the opponent or make their deck run thin quickly, for example by discarding cards from the top of their deck. (Gamepedia, Wizards of the Coast)

Permanents, characters and minions

Collectible card games build complex strategic situations by developing the board. Even if there can be cards that are played straight from hand to the discard pile, many collectible card games revolve around building the board with cards that stay in play to provide continuous value for the players. Perhaps the most common type of “permanent” cards that games use are creatures or minions. (Superdata 2010, Wizards of the Coast)

Creatures generally have an attribute for power or attacking (dealing damage) and defending, (how much damage the creature can take). (Figure 1.) Some rely on them more than others, for example Duel Masters is a heavily creature based game, while Magic can feature decks that use very little creatures, and even other permanent types. Hearthstone is somewhere in between, as the game encourages players to maintain board control at all times, yet it also has its fair share of powerful spells, but unlike in Magic, it is harder to craft a deck with very few creatures. (Superdata 2010, Wizards of the Coast, Gamepedia, Duel masters deck)



Figure 1. A Hearthstone minion card.

Resources

Collectible card games generally feature some kind of system for resources that can be used to play different cards. In Magic and Hearthstone, its mana. Cards have mana costs and naturally higher mana cost cards tend to be more powerful, but come at the expense of having to be played more later in the game. Different resource systems and variants exist. Some games use the cards themselves as a resource, a card can both be played for example as a minion card and as a resource card. This forces the player to choose which card to keep and which one to sacrifice. (Duel masters deck, Gamepedia, Wizards of the coast, Superdata 2010)

Sets and Formats

Both Magic and Hearthstone feature different card sets. These sets expand the game and provide change in the metagame as well as opportunity to create different formats.

Every year wizards of the coast releases around four bigger Magic sets and in addition to these they often release smaller sets that offer cards for more specific audience, for example for multiplayer formats. Magic has multiple different formats, perhaps most popular of them being standard. Most of Magic sets are designed with the current standard format in mind. Standard is a format where only the most recent sets are legal to play. This allows for a rotation in the playable cards and change in decks and strategies as standard is evolving all the time. (Wizards of the coast)

Other formats in Magic include Modern, a format in which legal cards are from a set called Mirrodin and onwards. The pool of legal cards in this format and other similar ones keeps growing over time as sets do not drop off like they do in standard. Because of this, the designers need to sometimes ban cards or otherwise place restrictions on them. In some formats that use even older sets than Mirrodin, some cards are restricted to one per deck. Banning and restricting is done to keep the game from getting too repetitive as certain cards or combos would simply be too powerful to pass. Every now and then some cards get banned when some tactic becomes a too big part of the modern metagame. (Duke 2015, Wizards of the coast)

Recently Hearthstone introduced a standard format as well. The format will use the most recent cards published as well as the classic, core cards of the game. This creates an interesting mix as some cards never rotate out of standard, unlike in magic where all cards can cycle out of the format. (Gamepedia, Wizards of the coast)

As the cards in collectible card games are often acquired from boosters, they often feature a kind of “limited format”. In Magic, for example, a format called booster draft exists. In booster draft players usually around eight players each open booster packs, pick one card out of them, and pass them to their neighbor who also picks one card out of it. This continues in a cycle until the boosters opened are used. Then another two rounds of this is done and then players craft decks from the cards that they picked. Another example of limited formats in magic is sealed, where players open six booster packs and use the cards they got to create their decks, without passing any to other players.

(Wizards of the coast)

Hearthstone also features a limited format called the arena. In the arena the player is given thirty times a choice of three cards. (Figure 2) The cards he chooses are then combined into a deck which he can use to play against others in the arena until he either gains twelve wins, three losses or chooses to retire.

(Curse Gamepedia 2014)

Limited formats generally allow players to ignore normal card restrictions. For example a normal hearthstone deck can have only two of any card, and only one if the card is of the legendary type, but in arena there is no such limit. If the player is lucky enough to get multiples of any good card, he may choose it in deck building phase. This too increases the appeal of limited formats as it allows players to play things normally impossible and the creation of decks that are harder to anticipate. (Curse Gamepedia 2014)

I find that these kind of deckbuilding formats are very popular as in addition to the normal challenge of the games, they give players the challenge of building a deck with limited card choices. Players need to be able to build a functional deck with what they get and the results will often be far from optimal. This gives the player a different kind of experience while playing as well as the decks are not as strong as they are in the formats where everything is available.



Figure 2. Deckbuilding in Hearthstone arena.

Different formats in collectible card games such as Hearthstone or Magic are healthy for the game as they introduce variety. Especially the rotation like system which Magic uses, and now Hearthstone as well, allows for an ever changing gameplay experience for players. Sometimes of course the current metagame can get warped to such that an individual player, or even huge amount of players can find it boring or annoying. However the rotation allows for these times to pass and give players something new and interesting. This is of course not only good for the players but also for the game developers as well. By making sure people play the newest sets and are interested to invest in them, they ensure that their products get sold. (Ham, 2010)

2.2 Other Card Games

After collectible card games enjoyed a huge success, many other card game variants have emerged as well, some of them having been heavily influenced by the collectible card game genre.

Deckbuilding games are games that thrive on the thrill of building deck, similar to the deckbuilding formats in collectible card games. However in deckbuilding games the players do not build decks in advance, instead the deck is built while playing. Deckbuilding games are a fairly new addition to card game genre, the first one, Dominion, having been released in 2008. (Meople's Magazine 2011)

In Dominion, players start with an identical deck that they then build over time. Each turn, a player draws five cards out of the deck and if they ever run out of cards, the discard pile is shuffled into a "new" deck. Players build their deck by buying cards with resource cards that they have. The cards bought give some kind of benefit for player, for example by giving more resources to buy new cards with or new actions that they can perform. These new cards that are bought go directly into the discard, so they will only be available once drawn after the discard pile is shuffled. Players also have and can buy cards that give victory points. These cards, however, do not benefit the player in other ways during the game. This leads into players having to balance their deck correctly to function well while still getting enough victory points to actually win the game in the end. (Henry 2009)

3 DESIGNING AND DEVELOPING A GAME

Designing and developing games is a time consuming process where the developers might have to do same things many times over. There are certain design and development fundamentals that apply to all games regardless the type of the game in question. Board games, computer games and card games all share these aspects or some of them, at the very least. (Rosewater 2011)

When designing and developing a game it is important to be able to do things quickly. It would be advisable to create a prototype early to see if the game concept is fun and enjoyable. Then during development it is good to be able to make changes and try out new features fast. Also to be able to “fail fast” is important. If the game simply does not seem to work, it is not fun or interesting or you are facing unbeatable challenges, it is better to let it go and start a new project. (Quinn, 2013)

3.1 Basic development structure

The game production works in a sort of a cycle, (as seen in Figures 3 and 4) if things do not work or it is decided that further improvement is needed, developers return to an earlier part of the production and fix things, or in some cases, redo things and start over. (Quinn, 2013)

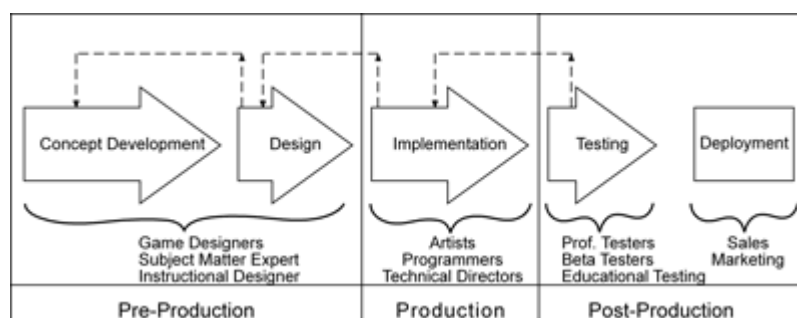


Figure 3. A common production pipeline (E-games 2007)

First, the game project should be initiated by having or creating the core idea or concept for the game. This part involves a lot of thinking work and brainstorming. The focus is on what kind of game is to be, what the core features of the game are, the setting, the goal, the potential plot and so forth. (Drake 2013, IGN 2006)

Next up is the pre-production phase. In this phase the game concept is refined and a game design document is usually made. If the game requires a storyline, this is the part where it is created. This is the point where game designers make a lot of important decisions that affect the work in actual product phase. A prototype is also often created at this point, to see how the game works and if it's fun.(Drake 2013, IGN 2006, E-Games 2007)

After pre-production, comes the actual production. This is where the code and art are being made and tied together with the story and the vision of the game. Game designers now work on balancing the game and making sure everything is correctly implemented. (Drake 2013, IGN 2006)

When all the features are completed, at least for the time being, the game enters the post-production phase. Here is where most of the testing is done. An alpha version of the game is made to test the game and find bugs or flaws in the game. Once the bugs and problems have been fixed, a beta version is then made to carry out further testing. This time the testing is more thorough, every minor bug is to be rooted out so the game can move on to the final version and release. (Drake 2013, IGN 2006)

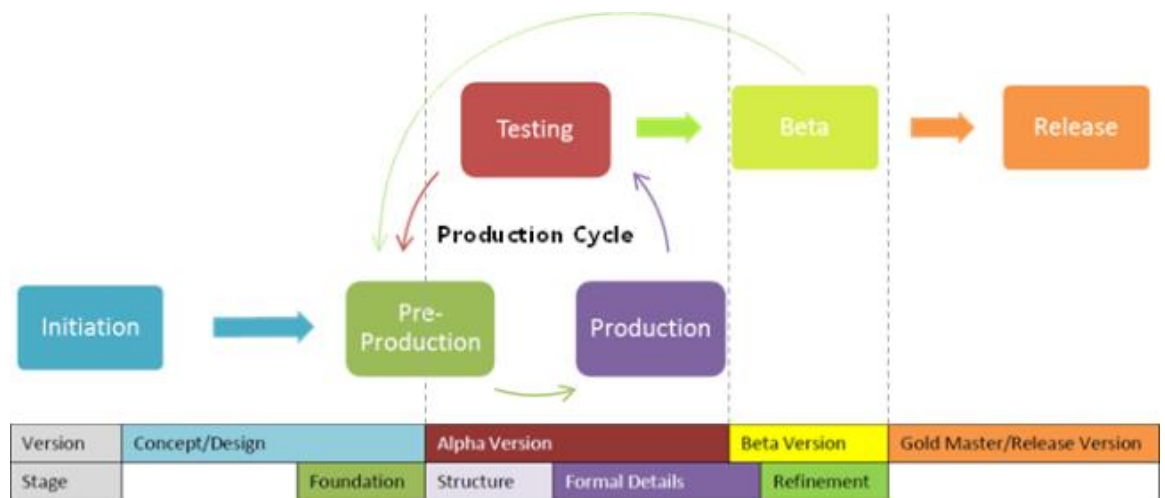


Figure 4. An example of a production cycle (Drake 2013)

If at some point the game fails to meet the standards during testing, developers go back to the previous phase and redo or fix things. This can be virtually at any point of the process and not just the main testing phase. Even if the majority of the testing is done towards the end of the project, it should still be advisable to carry out some form of testing during production as well. (Helppi, 2015)

In my own project I will loosely use this kind of production cycle. However as I'm working alone, at least currently, I have a good amount of freedom and I like to do things my way, I might alter the structure a bit. I will have a starting phase where I do most of the planning, but the production phase might overlap a bit with it. The main idea will still remain, I will do something, and see how it works. Depending on testing, I will then choose to move forward or go back to do it over or abandon it altogether.

3.2 Ten things every game needs

According to Mark Rosewater, head designer of Magic, there are certain aspects every game should have. He summarized these into ten categories that should be taken into consideration when designing a game of any kind. (Rosewater 2011)

Goal

First and foremost when describing or designing a game comes of course the main goal of the game. A game should have a clear, easy to understand goal that drives the player forward, it should be something that the player understands and wants to achieve. A good goal is fun and desirable, when players themselves wish to achieve the main goal of the game it drives the game towards completion. (Rosewater 2011)

Rules

All games need rules. If a game lacks rules it is hardly a game anymore. Rules are important to make as they of course define what can and what cannot be done. A unique aspect of game development is that the designers should be focused on making the main goal harder, unlike in any other forms of design. Rules make the goal harder to reach, by restricting the choices of players and thus forcing them to be creative when encountering problems. This is what makes the game interesting. (Rosewater 2011)

Interaction

Especially when developing a board game or card games, interaction between players is important, for a big part of these kind of games is the social interaction. In addition the players should have some kind of way to affect the game of others. If everyone playing the same game are just focusing on their own game and nothing they do affects the others, they could just as well be playing alone. (Rosewater 2011)

A catch-up feature

In order to keep the player interested, it is important to have him believe in winning. A good way to achieve this by introducing a “catch-up feature”. Something that can help players come back into the game and win, even if they are badly behind. This of course makes the game more fun and interesting to play as the outcome is not clear even if one player seems to be way ahead in the game. A player will not lose interest and his will to play as easily if he still feels that there is a chance, even if small, to get back into the game and win. (Rosewater 2011)

Inertia

A game should be of the correct length, a good game should end so that the player is craving for more, and therefore is very likely to play the game again. The game should be heading towards completion when it is in its neutral state, almost on its own. This way it is much less likely that it will get dragged on and the players do not need to try to force the game to end, leaving them much more satisfied once the game is finished. (Rosewater 2011)

Surprise

A good way to keep player interested in a game is to offer certain amount of uncertainty and randomness. For example in card games there is the factor of not knowing what your opponent has in his hand, and what are both players going to draw from their decks. This makes it much harder to predict the flow of game and allows for players to be surprised while playing. A certain amount of unpredictability and surprise generally makes playing much more fun. (Rosewater 2011)

Not only does it make the game more interesting, it also makes it harder to make absolute, correct decisions when there are unknown factors present, therefore making playing more challenging as well. And again a card game example; when

players do manage to read their opponents or make a guess of what they might have in their hand or what they will do next, it turns the correct play into a much more rewarding experience. (Rosewater 2011)

In addition to the perks mentioned above, an unpredictable game is usually more replayable than one with little randomness and surprise elements. A game with more surprise in it generally offers more different outcomes and game states, this variety makes it more fun to play the game again. (Rosewater 2011)

Strategy

In order to play the game more, the game must remain interesting to the player. One way to keep the player interested is to offer variety in games. Giving players different challenges and opportunities to learn and adapt are important. A game which you can never truly master, where you always have something to learn, has a very high replayability and can remain popular for years, even without having sequels or expansions. (Rosewater 2011)

While having some randomness is good and healthy for the game, there should be room for improvement, tactics and strategy. (Rosewater 2011)

Fun

“Is the game fun to play?” Is the most important question to ask when designing any game. Fun is also a factor which can be easily overlooked as developing goes on and designers and developers get lost in minor details and balancing, forgetting the main purpose of the game which is to entertain the players. Even if a game fails in some aspects, if it is still fun it can be enjoyed. However if a game is well designed and polished, the flavor is good and it looks nice but nobody finds the gameplay fun and wants to play the game, it is a failure. (Rosewater 2011)

There can be some difficulty when actually determining what is fun in a game, as people have very different opinions and views on the matter. For example some people find ridiculously challenging single player games to be fun, while others prefer more casual, easier to achieve fun. (Rosewater 2011)

Flavor

Flavor is an important part of the game, and has actually more to do than just give the game an appealing look and feel. Flavor serves as an important tool to make the game easier to get into and learn. Flavor can make the player connect with something in a game, and make him interested in it. A fantasy game could for example use a mythical creature, such as a dragon, as an enemy type. This will cause people to make connections, how have dragons worked in other settings and make assumptions on how it will work now. It can explain a mechanic on the said creature and whet appetite for those people who like dragons. (Rosewater 2011)

Hook

Finally, a game should have some kind of a “hook” to pull the player in. A lure, something that teases them, awakens their appetite. This is to make people try the game, as no matter how good a game you have created, if nobody ever tries it, they will never play it. This is something that is often called a “unique selling point” in game design and is very important when marketing the game. (Rosewater 2011)

3.3 Designing complex cards

Designing cards is different depending on the purpose of the card and the environment it is created for. Some cards can also appear different for beginners and

veterans. While it is natural and understandable that a novice player might find a certain card complex when an experienced player sees the same cards as a simpler one, there are actually cases where the opposite is true. Some cards appear more complex when a player has more experience and has “matured” to a point where he can see the underlying value and nature of a card. (Rosewater 2014)

These kind of cards are valuable, especially for a collectible card game that is constantly reinventing itself. Cards that appear simple, but are actually more complex than they look are appealing to players of different levels. By designing these kind of cards the game will not so easily scare away new players, yet still provides interesting cards for veterans to get creative with. (Rosewater 2014)

4 ANALYZING CARD GAMES

Here a brief introduction and description to Magic and Hearthstone is given. In addition this section will provide some analysis on Hearthstone using Rosewaters guidelines. Also the advantages and differences of physical and digital card games is analyzed.

4.1 Magic: the Gathering

Magic is the game which sparked the whole collectible card game genre (Superdata 2010) and a logical choice for study when making a card game of your own, especially if it is a collectible card game.

4.1.1 Description

In Magic the player takes the role of a powerful mage, a “planeswalker” who travels around different worlds in the multiverse and because of his ability to travel around planes reaches heights of power impossible to attain for normal people. Magical duels between planeswalkers are what the actual game is about, each player is a planeswalker and cards at their disposal are their spells that they use against one another. (Wizards of the coast)

4.1.2 Goal

In Magic the goal is to lower your opponents’ life points to zero, both players start at 20 in most formats. There are many other ways to win as well, but they are usually hard to achieve and most decks usually win by some form of direct damage. (Wizards of the coast)

4.1.3 The five colors

Magic's perhaps most distinguishing feature is the colors. Flavor is the heart of the game, it explains everything and gives things context. And the heart of the flavor lie the colors. (Rosewater 2003)

Magic has five different colors for cards and in order to play cards of the specific color players need lands that give the proper color to play these cards. Each of these colors has a different identity and color philosophy, for example blue is the "thinking color" and its cards are often more controlling types both in mechanics and flavor. Blue is often used in decks which seek to slow down game and gain control of the situation completely before they win. Red on the other hand is an aggressive, emotion driven color and has a lot of quick and fast cards and spells that deal direct damage to an opponent. Naturally the most aggressive decks tend to be red. (Wizards of the coast)

However, in Magic the player is not tied to any one color and can mix them in the same deck, even all five of them should he choose to, though that can lead to certain problems. One could, for example, create a red-blue deck which has attributes from both the colors, it might be an aggressive deck which tries to win quickly, but utilizes blues controlling cards to keep the control of the board and of the game itself long enough that it can win.

(Wizards of the coast)



Figure 5. The "Color Wheel". © Wizards of the Coast.

The earlier mentioned colors of magic are White, Blue, Black, Red and Green. (Figure 5.) Simplified, White represents order and law and is usually seen as the “good” color. White mana comes from open plains. Blue is the color of intelligence, it is the neutral color between white and black and draws its mana from islands. Black represents selfishness and death and draws its powers from swamps, where things fester and rot. Usually black is seen as the “evil” color. Red represents emotion and chaos, it is the unpredictable color and usually seen as the most aggressive. Mountains are the source of red mana. Green is the color of life and nature, it acts on instinct and believes in wisdom and tradition. Green mana can be found in forest. (Wizards of the coast)

The nature and flavor of the colors is seen in their mechanics. (Color based mechanics in figure 6.) White, which is all about society often uses multiple small creatures. As it is a color of order and the divine it also features great amount of strong removal spells and means to bind opposing creatures. (Wizards of the coast)

Black on the other hand being opposing color of white and valuing itself above anything often sacrifices its “pawns” for gain. Black too is strong in removal but especially specializes in killing creatures. (Wizards of the coast)

Red, being an aggressive color, often features weak and fast creatures that allow it to begin the game quickly. Red's removal is usually “burn” cards that deal direct damage and can also be targeted on the opposing player. The strength of this kind of removal is its versatility, but it deals strict damage and therefore is often not enough to finish off the strongest creatures around. (Wizards of the coast)

Green is the color which is about growth and nature and therefore usually has the biggest creatures around. Green does not have much creature removal, but other permanent types such as the unnatural artificial enchantments and artifacts are something it breaks often. (Wizards of the coast)

Blue being the “thinking” color and one which most often uses more subtle methods, often lacks in the creature and removal department. Blue creatures tend to be weaker but often get around the opponents defenses with special abilities such as flying. Even if blue lacks direct removal, it has means of returning creatures to their controllers hand and counter magic which it can use to prevent a creature spell (or any other spell for that matter) from being cast at all. (Wizards of the coast)

The colors and their strength and weaknesses, their limitations make for interesting deck building and drive the players to play certain archetypes. When building a deck in Magic one first should choose his game plan, how does the deck in question win the game? What does it want to do? Then it is time to pick the suited color our colors for the deck type. A quick aggressive straightforward deck can easily function with just one color. Slower game plans often want to take advantage of multiple colors to give them wider amount of answers and powerful cards. When having multiple colors in a deck of course makes it more challenging to play certain spells and the player may encounter problems with his mana

by not drawing the appropriate lands to play all his spells. Magic also has multi-colored cards that are often even harder to play as they require two or even more different land types to be played. (Wizards of the coast)

The colors and their philosophies go much deeper than this, the flavor behind the cards is surprisingly deep. Also there are many other mechanics behind the colors, this was rather brief look into them. I myself am very interested in the flavor part of the game, and the colors are an important part of that. The colors nicely tie everything together and give the cards context.

4.1.4 Attacking and blocking

Magic, like many other games of its kind, rely heavily on minions it calls creatures. Creatures have a power statistic and a toughness statistic, the former describes how much damage it deals and the latter how much damage it can take. In addition creatures often have different special abilities. On the combat phase of a magic turn, first the active player chooses whether he attacks or not and which creatures attack. After this part both players have the chance to act with different instant speed cards and abilities before the defending player decides how he blocks. Then both player get a chance to respond before the actual combat takes place. (Wizards of the coast)



Figure 6 Example cards from Magic the gathering

4.1.5 Analysis

Earlier I introduced the ten important aspects every game needs, as according to Mark Rosewater. How well does Magic do with these guidelines? Rosewater himself has actually analyzed the game, and according to him Magic does well in each of the categories.

Goal

The goal in magic is very simple, you are to defeat your opponent in a duel, in gameplay terms by lowering his life total to 0. It is a clear goal that well describes what needs to be done. Magic does support different ways to win the game as well, but because the main goal to defeat your opponent does not change and these are just a small part of a big and complex game, it is acceptable. The aim of the game is still the same and due to its simplicity, additional and conditional victory conditions can be applied. (Rosewater 2011)

Rules

Magic has a very large amount of rules, the core idea is simple, but the rules are quite complex and deep. This makes the game harder to learn and get in to, but when a player truly commits to learn and play the game, the rules are great.

(Rosewater 2011)

The rules allow the game to be really structured and balanced, providing opportunities for different strategies and ways to beat them. In magic the players are given a great amount of tools to keep their opponents from reaching their goal, the players themselves act as a barrier between them and the goal.

(Rosewater 2011)

Interaction

Magic has two card types that especially force interaction, creatures that when attacking, allow your opponent to interact by blocking the attackers, and instants, cards that can be played at nearly any given time, such as when your opponent normally is the one acting. (Rosewater 2011)

Another thing that allows for interaction in magic is the aspect that every card has a counter strategy, every threat has an answer, which means that players can change their decks over time as different strategies emerge. If there is some kind of dominant deck type, the metagame will adjust to combat the deck type.

(Rosewater 2011)

A catch-up feature

Magic's main catch-up feature is the mana system. As players build their mana reserves over time, they are bound to have cards that are at their best during different phases of the game. This leads to good and bad draws, regardless of the

stage of the game. Early on a high mana cost creature would be a terrible draw, whilst later in the game a weaker, cheaper creature would be unwelcome. Because of the chance that a player might get a fantastic draw while his opponent gets poor ones, there is a chance for unexpected twists in a game, even when one side is dominating. (Rosewater 2011)

Inertia

Magic's mana system drives the game towards completion. As game progresses, players will have access to more mana and stronger spells, spells that are powerful enough to eventually end the game. (Rosewater 2011)

Surprise

The surprise in magic comes from the deck and the hand. The deck makes sure each game is different while the hand provides hidden information to keep the game thrilling. (Rosewater 2011)

Strategy

Magic does very well in the strategy department. The game itself has deep strategic elements, and it is further backed up with strategy of deck building and depending on the format, ever changing metagame. (Rosewater 2011)

Fun

According to the play patterns of the players, Magic is fun. People can play Magic for hours and hours on one run and yet wish to play more. (Rosewater 2011)

Flavor

Flavor is a tool that Magic uses well. Magic's setting, the idea of a magical duel ties everything together and helps pull people to play the game. (Rosewater 2011)

Hook

Magic excels at hooking players. The biggest reason for this is the nature of trading cards. A single card has an identity on its own, but it also gives a tease of the larger game as the cards are a part of a whole. (Rosewater 2011)

4.2 Hearthstone

4.2.1 Description

In Hearthstone players take the role of a one of nine unique characters based on the classes of the game World of Warcraft and fight against other players in the form of a card game. (Gamepedia)

4.2.2 Goal

Like in magic, the goal is to lower your opponents life total to zero. The starting life points are higher, 30, but otherwise the goal is the same. Hearthstone lacks some other means of winning that magic has, although it has similar tactics.

(Gamepedia)

4.2.3 The nine classes

Unlike magic, hearthstone lacks colored mana, any card can be played if you just have the right amount of mana. Hearthstone instead limits the cards that a player can use by having character classes. Each class has unique cards that can only be picked by that class when building a deck. In addition to these cards, there are also neutral minions that the players can use in any deck type. All spell cards however are class restricted. This encourages different archetypes while at the same time limits the possible interactions that can be done with the cards.

(Gamepedia)

The same way the colors provide flavor for mechanics in Magic, the classes do the same job in Hearthstone. The mechanics and attributes the classes have are drawn from the lore of World of Warcraft and give the classes unique strengths and weaknesses. The classes are: warrior, mage, druid, priest, rogue, paladin, shaman, warlock and hunter. (Gamepedia)

These classes not only have their own spells and minions that they can use, they also have a hero power. Hero power is an ability that each of these classes has that is unique to them, available once a turn for two mana, and provides different benefits. For example the mage class can deal one damage to any target and the paladin class can summon a weak minion on his side. (Gamepedia)

Like the colors in Magic, the classes in Hearthstone give restrictions and unique aspects to classes. Classes have different kinds of removal choices and some classes are just generally more suited for aggressive play while some can better make use of slower tactics. For example the warrior class heavily uses two mechanics that benefit a long term plan and have good synergy with one another. (Gamepedia)

Warrior's hero power gives him two points of armor, which is a resource like health points. This armor, however, can go past the starting life total, something which normal healing abilities cannot do. This allows the warrior to take in much more damage than many other classes, and he can keep raising his armor if he has nothing else to do. (Gamepedia)

Warriors also use weapons. Weapons are an interesting variant of removal and damage dealing. They can usually be used multiple times, giving more value for the player, perhaps giving card advantage as he can use it to remove two or even more minions from the opponent by using just one card of his own. The drawback of weapons is that the character wields them himself and while attacking takes damage from the minions. (Gamepedia)

Warrior can use these weapons to get rid of threats and potentially gain card advantage, and the armor helps him stay alive while doing so. While a warrior can be more aggressive, these abilities are a great help in longer term game plans.

4.2.4 Analysis

As earlier Magic was examined on how well it does according to Rosewaters own analysis, here I'm going to analyze Hearthstone using the same standards.

Goal

Similarly to Magic, Hearthstone has a simple goal, actually one could say they are identical. Both games feature duels and within the game victory is achieved by lowering the life total of the opponent to 0. There are some minor differences such as Hearthstone having 30 rather than 20 starting life points, but the main goal is unchanged.

By using life points which is very common in many games outside the card game genre as well and by having a goal identical to Magic and many other collectible card games, the game is easy to approach and quick to learn. How the game is built supports the goal and the game starts quickly, also due to its simple and aggressive nature the game tends to be over fairly fast.

Rules

In comparison to Magic's complicated and challenging rules, Hearthstone has simpler, easier to approach set of rules. While Hearthstone does have "hidden" levels of rules the main rules of the game are learned easily, making the barrier of entry low. As a means to restrict the player's actions and making the game harder to win, it functions a lot like Magic does. The rules are simple, but they allow for less than magic does, as for example direct interaction with the board only happens on your own turn, this can be a gift or a curse depending on viewpoint.

Interaction

Hearthstone acts a bit differently than some other games of the same genre, notably Magic, as it lacks the opportunity to directly act on your opponent's turn. There is no blocking mechanic nor is there a card type that can be played at any time you choose. This forces the players to react either in advance, for example

by putting up a secret or a taunt minion, or after the opponent has played his turn, by playing a damaging spell for example.

In the very worst situation, this can lead to a match where one of the players is dominating the game from the beginning, and the other is forced to react to everything afterwards. This allows the dominating player to keep the control of the game by playing strong threats that require an answer. Hearthstone does have interaction, even if the ways and opportunities to react are more limited than for example in Magic. The players need to be mindful of what the other is doing and what they could do, this encourages a different type of playstyle as you cannot save mana for your opponents turn to answer a threat right away, but rather have to consider your own choices before his turn.

A catch-up feature

In hearthstone, as in Magic, the mana is built over time forcing players to put cards with different mana costs into their decks. This combined with situational cards and the random factor of the draws can allow the game state to change dramatically, giving players who are behind a chance of comeback. However as Hearthstone favors the board control a fair deal, getting behind early can be very devastating and even good draws later are unlikely to change the outcome of the game if the early game is uneven enough. Another important and quite unique feature in Hearthstone that allows the players to catch-up is the existence of random effects. Hearthstone has a large amount of cards that have some random effect in them, sometimes it can even turn out to be a very negative effect in current game state even when the effect itself is supposed to be positive.

It should be mentioned that the hero powers, while unlikely to allow a spectacular comeback, at least allow the player to do something if he gets bad draws. In some cases they can greatly help the player fight back while hoping for the correct draws that really help him to get back in the game.

Inertia

Same way as Magic, hearthstone has a mana system that allows players to eventually use stronger cards, driving the game towards ending. As hearthstone is quite fast to play and favors a more aggressive, creature based playstyle and features hero powers which allow players to take some action even if they do not have appropriate card for the situation, the game drives towards end fairly swiftly.

In addition, as the deck size is relatively small even games that get dragged are forced to end fairly quickly as players run out of cards. Once a deck is out of cards, the owner starts to take increasingly more damage each time he would draw a card, speeding up the process even further.

Surprise

Hearthstone is loaded with surprise. In addition to the surprise effects that come from the deck and the hands of the players, there are multiple cards that have random effects. Because neither player can know what is going to happen when a certain card is played or a certain minion dies, it keeps the players at their toes at all times and sometimes even big, game changing events may occur without being planned by either player.

Strategy

Hearthstone is slightly different from magic, the amount of different strategies and deck types is smaller, but in the end the game shares a lot of things strategy-wise. The deck crafting part and changing meta exist in Hearthstone as well.

Fun

As Hearthstone has such a huge player base, be it casual players who play every now and then or hardcore competitive players, and the game can be played for longer times without getting bored, Hearthstone definitely is fun. The game has quite a good mix of strategy and luck mixed in, creating a mix that is appealing for many. Of course, fun is still something that is very subjective, and not everyone will find the same games fun. But since you cannot please everyone, Hearthstone surely passes this category.

Flavor

Hearthstone has a strong flavor. As the game pulls from the Warcraft universe and especially from World of Warcraft, it has a great deal of concepts and characters that are well known and common to many players. This helps pull people in. The flavor is also used very nicely on different cards, helping tie mechanics together.

Hook

Hearthstone is quite good at hooking players. It has the characteristics a collectible card game generally has, and as it is easy, appealing, fun, casual, yet surprisingly deep it can easily make a person hooked. What further increases its attractiveness is the fact it is played on a computer or mobile and is free to play, making it very accessible. Players are always to be found and the matches are generally over very quickly. All of these combined makes it very easy to play and enjoy the game.



Figure 7. A screen capture from hearthstones arena game mode

4.3 Physical vs digital game

Especially in recent years, card games that are digital only have become more and more common. There are different advantages and disadvantages in both being a physical product and being a completely digital card game.

It is much easier to change cards afterwards in a digital game, be it need to weaken or strengthen a card or simply to correct a wording on a card, a game can simply be updated and the changes implemented on a patch. On a “real” card game this is much more difficult. Another advantage of a digital card game is that it is possible to do more complex things easily and without burdening the player with multiple things he needs to keep track of. On a digital game, such as Hearthstone, it is also possible to make animations on the cards and different visual effects when cards do something. (Figure 7.) Not only this makes the

game look good and appealing, it can also serve as a means to make the gameplay clearer.



Figure 8. A screen capture from Hearthstones Ranked game mode

In figure 8 the cards that can be played at the moment as well as the characters that can act have been given green edges, this makes it easier to see what actions can be taken and players do not need to remember as much. For example forgetting to attack with a character is less unlikely with this kind of an approach.

An advantage given by a physical product is of course first and foremost the social part of playing. Playing on a kitchen table with friends is a totally different sensation than playing with someone across the internet, especially if it is somebody you do not even know. Also playing with physical card does not require a computer or a mobile device nor internet connection. When discussing collectible card games, for many people it is much more appealing to actually own the physical cards, this is especially true for collectors. (Though someone might also

prefer them to be digital as they can take quite a bit of space and digital collections can be easier to manage)

5 CREATING MY OWN GAME

5.1 Getting Started

For a long time I have been having different types of game ideas. And being a card game player, also many ideas for games of the said genre. Now I finally decided to try and create a game of my own.

First I started improving on the ideas that I had been brewing before, creating new concepts and giving thoughts to different aspects of the game. I also begun to consider the possible problems my ideas had or what they might face. A core idea was to create a game that is similar to collectible card games, yet is not necessarily one itself, rather a standalone card game with room for expansions.

The main goal I had in mind was to create a simple, easy to approach game that would still have strategic depth and an appealing flavor. The game would feel and work similarly to collectible card games such as Magic, but would not be as complicated and quicker to play.

I had couple of things especially that I wanted to try, an idea of players using the same deck to play the game and a mana system which would be different from those commonly used in games. I was aiming to create a system which would allow for complex plays and different strategies, yet would avoid the problems that for example Magic's mana system has. A solution that would be somewhere in between Magic and Hearthstone.

Also I was toying with the idea of creating very powerful creatures for the game, making them more impactful as I liked the flavor of summons actually being not too common. When summons would then be used, they would be very dangerous and impactful. The problem with this idea is of course that in a card game it

is often common to have some types of cards that stick on the board, most common choice is different creatures or characters. If I were to cut down on the number of creatures my game uses, I would possibly need to find something else to use in their place, at least if I were to pursue gameplay similar to most collectible card games.

5.2 Design and Development

During the project I created two prototypes I tested. With the first one I tested some of my ideas and the second one was formed as I decided to try a different approach.

5.2.1 First Prototype

The first prototype created was simple printed pieces of paper put into card sleeves with other cards. This prototype was used to test my ideas for how to create opportunities for a players to respond to what the other plays without giving them the option to actually play cards on their opponents turn. Also this prototype tested a mana system for the game which I had been playing with in my mind for a longer time, and actually had tested a little with some Magic cards earlier.

With the first prototype I got a chance to test some of the mechanics I had thought for the game. The most interesting and important was the system for mana and card draw. In this prototype the player had access to mana, which was a resource to both play cards and draw them from the deck. Unlike in most card games, in this one you did not draw a card in the beginning of your turn. Instead, the players got three new mana each turn, and could choose to either play spells they could afford with the mana, choose to spend some of it to draw cards, or they could conserve it for the next turn.

This prototype also tried to give players opportunities for responding to each other's actions without giving them the chance to act on opponents turn. A specific ritual card type which would perform its actions after a turn or few was created. The rituals effects would then be bigger than those of other cards, but the opponent has time to prepare for them or even interrupt the ritual. (A ritual summon card in figure 9.)

The setting I had in mind for the game evolved over time, but the final version before the design got scrapped was a conflict between different magical factions in a city divided by these factions. The flavor of these factions would be tied to the different mechanics they would have, explaining them and giving them proper context.

The city was to be fairly grim, each faction would be selfish and wield different, darker forms of magic. The factions I had in mind were the necromancers, demon summoning cultists or heretics, vampires or blood mages and a sort of tainted versions of the classic druid archetype. Only the "necromancer" and "demon" decks were created for the prototype and tested out, as I was mainly testing the mana, draw and rituals at the time.

<div>3 Demon Lord</div> <div>Ritual Summon</div> <div>After one turn summon Demon Lord</div> <div>Immolate (This minion deals 1 damage to minions that damage it)</div> <div>3/4</div>	<div>1 Harm</div> <div>Spell</div> <div>Deal 1 damage to target.</div> <div>Draw a card.</div>	<div>2 Blood Fire</div> <div>Spell</div> <div>Sacrifice a minion as an additional cost to play this card.</div> <div>Deal 4 damage to a target</div>
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------

Figure 9. Cards from the first prototype

In addition to this idea, I also had a vision of different spell schools, an older idea I had been brewing years earlier when thinking about my own games. These schools would limit what spells could be used by the players, similar to how the colors limit the gameplay in Magic. I had different concepts in mind, in some versions the players could only use one school at a time, in some others the players could choose for example two from multiple schools. One that I considered would have one or more neutral schools available for all, and then the player would decide one “advanced” or “forbidden” school of magic he would use, bit similar to how the classes and neutral cards work in Hearthstone.

The feedback and data I got in the first playtest sessions brought up some new questions and problems, as well as a need to clarify for myself what I wanted to do with the games features and mechanics.

One question that popped up a couple of times was that why would people play this game instead of Magic or Hearthstone. My goal was to create a simple, easy to approach game that people who liked card games could play but also would appeal to those newer to the genre, and have a gentle learning curve. However I

did start to question the direction I was taking the project in, as the early prototype, despite the new mechanics I tried, still resembled those two games quite a bit.

The problems and questions I encountered, together with my doubts, caused me to return to consider an earlier idea I had. This would become the second prototype.

5.2.2 Second Prototype

Second prototype was, as earlier mentioned, actually a much older concept that I had been developing, but which was then abandoned when I was trying to make a game that was more like a collectible card game. The idea with the second prototype was that both players would play using the same deck.

This I wanted to try as it would cause deck manipulating cards to become powerful and interesting, as when you would play a card that would rearrange the top cards of the deck, you would not only have to consider what you yourself want to draw, but also what you wish to give for your opponent. The game would be kind of “mind game” driven, both players would do their best to outsmart the opponent and deny them resources they needed to win. Different cards that would rearrange, give information, discard and draw cards from the deck would be used to give players ability to control the draws. (Wizard eye card in figure 10.)

As both would have access to these cards and thus possibly gain knowledge of what cards their opponent would have in their hand, the decisions would become challenging. If the player would arrange the top 4 cards of the deck, which would he leave on top? The worst one of those he saw, one that he would like to pass for his opponent, but what if his opponent has a means to draw multiple cards? He would have to consider the second card from the top as well. And there

would also be the chance that he has a card which discards cards from the deck, perhaps the player knew his opponent drew a card like that last time he had manipulated the top cards. So should he actually leave the top cards as fairly powerful ones and the third and fourth cards as weaker ones? For in this way if the opponent tries to counter the usual plan of leaving weaker cards on top, he will discard them away and be left with the weak cards. These kinds of mind game cards I had planned for the game.



Figure 10. Second prototype cards and a card concept with art.

I designed some prototype cards that I then hastily made so I could test the new different prototype. The reception was fairly good, many who had tested both prototypes favored the newer one, myself included. I quickly decided to continue developing the newer prototype.

There were some problems however, the matches lasted perhaps bit too long and the amount of reactive cards which you could play on your opponents turn was a bit too high. Also many of the cards that manipulate the top cards tended to be these reactive, quicker types of cards. This lead to turns often lasting fairly long as players would consider what to do before their own turn came to pass in order to set up a good draw as well as getting most out of their cards. This also encouraged players to play more on their opponents turn rather than their own

turn.

As I was looking for simpler and quicker gameplay, I quickly did some adjustments and removed the mana system inherited from the first prototype and decided to limit when the cards could be played and how many could be played. The game became much faster and according to the playtests, more enjoyable to play and after a while I settled for this version and decided to develop it further. Cards could now be played only one at a turn and only on your own turn, unless the cards themselves specifically stated otherwise. I decided to still have some cards which broke those basic rules, as some effects I found too small to spend the whole turn on, and others do not really work if they cannot be played during the opponents turn. (Figure 10.)

In my early visions, the setting for my game was a sort of a classic one; a duel between wizards. The idea developed into a fight for the secrets of a long lost library. The deck would present the powerful spell scrolls that the wizards could find while searching the library. After the later concept of a city and factions used in the first prototype was abandoned, it was decided to return to this concept. The concept supports the game as having just one, shared deck between players matches the concept of two wizards drudging through the secrets of the library. Whoever gets their hands on a spell first gets to use it.

As the development continued, a question surfaced. Would the game revolve too much around luck and which cards players would happen to draw from the deck? As Rosewater said, a game should have some kind of catch up feature to give the losing player hope for a comeback (Rosewater 2011). Because of this an experiment with the idea of event cards was begun. These event cards would have to be played on the spot when drawn from the deck and do something which affects both players and how the game is played.

People seemed to respond to events well, some balancing and adjusting needs

to be done and the plan is to create different kind of events, but it is quite certain that their addition was the correct choice.

5.2.3 Analysis

As I had settled for my second prototype, the original idea, I decided that in addition to just play testing I could look at my game using Rosewaters guidelines. How well would my game meet these requirements? It was time to do some analyzing. As earlier mentioned the ten things every game needs are: a goal, rules, interaction, a catch-up feature, inertia, surprise, strategy, fun, flavor and a hook. (Rosewater 2011)

Goal

The goal is same as in the previous games analyzed, to lower the life total of your opponent to 0. In terms of flavor the game has the same idea as magic; to defeat an enemy in a magical duel. This is easy to understand for people with experience with these kinds of games, but it is justified to ask if the games idea and goal are too close to those of Magic and Hearthstone. Would a more original goal work better? In any case, the goal works and is easily understood and the section is a pass.

Rules

The rules are simple, and make restrictions on how to play. The opposing player acts as obstacle in the game. Restriction of one card per turn is the most important aspect, as players need to consider carefully which card to play. There are also cards that break the basic rules of the game, cards that can be played at any time and cards allow for other cards to be played after them. These cards become valuable and sought after. There are some issues with how these game

breaking cards work, but I believe that is more of a balancing issue. I'd say this section is also a pass.

Interaction

The game has a good amount of interaction, players need to defeat the other in order to win and there are different cards to combat others. The fact that players also use a shared deck forces them to think bit further ahead when interacting with the deck, manipulating the top cards does not affect just yourself but your opponent as well. Also cards exist that can be used to react instantly on your opponents actions. I call this section also a pass.

A catch-up feature

As the game has random draws, the game has a good chance of providing comeback for a player who is on the losing side. However as the game uses same deck for both players and cards that manipulate the top cards of the deck exist, there is a danger of other player controlling the game too tightly, preventing the more powerful cards getting into the hands of his opponent. Events were created to further increase the chance of something unexpected happening and providing the players a chance to come back from a losing situation. Again, many of the issues with the game can likely be corrected with proper balancing, but I am not entirely sure if this section is a pass. Further designing and testing is needed, perhaps introducing of more event cards helps solve the issue.

Inertia

Currently I believe the games length is good, and cards exists that drive it quickly closer to completion. I have also limited the number of healing cards to avoid the game dragging too much. This section is a pass.

Surprise

As the game is a card game, there is always some surprise in what both you and your opponent draw. Also hands are hidden so players do not know what the other will do. However these factors are somewhat lessened with the amount of deck manipulation, but I do not believe that is an issue. Also with the adding of the events and cutting some of the deck manipulation cards, the amount of surprise is increased. This sections is a pass.

Strategy

I believe the game gives the players a good amount of room for improvement. There is always the challenge of choosing the right tactics and reading your opponent. In addition there are the cards that give you control of the draws or allow you to react instantly, using them the right way at the right time can greatly affect the game. However, without expansions, there might be a chance that this eventually becomes too simple and many of the choices obvious. I believe this can partially be avoided with proper designing and balancing, but I am left unsure whether the strategy is on correct level just yet.

Fun

The reception of people has been quite positive, the game provides at least short, casual fun. The question is how good is the replayability in the long run? The section is a pass, but I believe there is a lot of room for improvement.

Flavor

Flavor ties everything together in the game, the setting of the old library and the idea of a magical duel. Cards function as spell scrolls and the deck represents the collections of the library, events are surprising situations that occur while the

players search through the library as they duel. I'm sure there is more work to be done on this section, but I also think it passes as it is.

Hook

This section is tricky, I'm not sure the hook is there just yet. I have a strong flavor, and the game is quick and easy to play, but is it addicting enough? And does it look appealing enough that players actually try it? Is the setting too cliché? This section is not a pass, I believe the game is not far enough yet. However, once it gets art, polished gameplay and flavor, I think it will pass.

Conclusions

The game is showing promise, but many of the sections have to be improved. The biggest problems are perhaps the catch-up feature and strategy parts. I need to make sure the game does not too easily get one sided, create enough strategic depth and at the same time maintain the simplicity and style of the game.

5.2.4 Creating art for my game

I had created some concept art for my game long before I "officially" began the development. These were usually small sketches I created while thinking about different aspects of the game, kind of to help the thought process and to illustrate my ideas. Even if the type of game I was creating changed and evolved with time, as did their flavor and backstory, some of the card ideas or simple ideas for card illustration stayed, even if a bit changed.



Figure 11. Some early concepts for cards

I initially got the idea to choose a fairly simple art style. This was because I would create the art for the game myself and this made it easier to do. In addition I believed that some of my original ideas and the flavor feel of the game would work fairly well with a simpler art style. Among the first, older ideas was a style which would appear more illustration like. The cards themselves would be spell scrolls used by the players, and flavor-wise the pictures in them depicting different spells and summons would be simple hand drawn pictures by people who had witnessed said spells and tried to do illustrate them in simple scrolls. (Figure 11)



Figure 12. Later design of different card types

Different scroll variations were made, and the ones that can be seen in figures 12 and 13 are the current ones used. However they are likely to experience changes, I am fairly happy with the illustrations on the scrolls, but creating a scroll design that I would be content with has proven to be hard. I'm also considering giving different card types different scrolls, with more valuable cards perhaps having a fancier look, and events could have a completely different look.

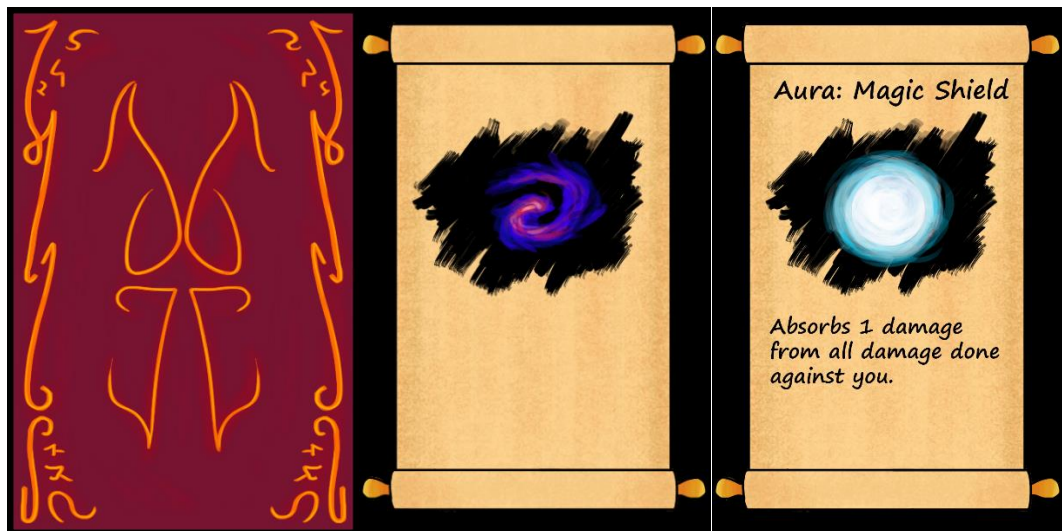


Figure 13. A card back design and card concept art.

5.3 Conclusion and the future

In its current state the game is unfinished, it did not get as far in the development as was planned. However, a good amount of data was acquired while working on the game and the plan is to continue developing it in the future. The most time consuming part of the development is easily the testing, as a lot of different concepts can be made quickly, but to see how they all work can take some time. Currently there are many new card concepts and ideas that are still only on paper and need to be tried out to see how they work. Testing too many changes at once is inadvisable as it is not so easy to see how individual changes impact the game when there is a great number of changes to keep track of. Because of this

it is better to test a smaller amount of features at a time. My aim is to keep testing different ideas for the game and eventually finish and if possible publish it at some point.

What remains to be done is a good amount of art, the final style is yet to be decided and some cards still lack the concept, as I have been constantly brainstorming new cards. Also I need to look into the things that the analysis brought up, and do a lot of game testing. I have some plans for a possible partial redesign of how the events work that needs to be tested, and many cards need to be properly balanced and possibly some new ones added to improve the game experience. From a production point of view the game is still at the middle of production, yet to enter the beta stage. However, as already said, my goal is to continue developing the game and get it finished even if the development progress might slow down a little.

6 REFERENCES

Curse Gamepedia (2014)

https://www.youtube.com/watch?v=jjhbAFPZJ_o (Watched 16.5.2016)

Drake, E. (2013) A guidelines of game development life cycle (v2.0)

<https://personanonymous.wordpress.com/2013/07/17/a-guidelines-of-game-development-life-cycle-v2-0/> (Read 27.5.2016)

Duel masters deck. Duel master game rules

<https://dmdeck.wordpress.com/duel-master-game-rules/> (Read 29.5.2016)

Duffy, O. (2015) How Magic: the Gathering became a pop-culture hit – and where it goes next

https://www.theguardian.com/technology/2015/jul/10/magic-the-gathering-pop-culture-hit-where-next?CMP=fb_gu (Read 29.5.2016)

Duke, R. (2015) An introduction to the popular constructed formats

<http://magic.wizards.com/en/articles/archive/level-one/introduction-popular-constructed-formats-2015-04-27>

E-Games (2007) Game Development Process

<http://www.e-games.tech.purdue.edu/GameDevProcess.asp>

Gamepedia. Hearthstone wiki

<http://hearthstone.gamepedia.com>

Gamepedia. Hearthstone wiki

<http://hearthstone.gamepedia.com/Gameplay>

Gamepedia. Hearthstone wiki

http://hearthstone.gamepedia.com/Hearthstone:_Heroes_of_Warcraft

Gamepedia. Hearthstone wiki

<http://hearthstone.gamepedia.com/Arena>

Gamepedia. Hearthstone wiki

<http://hearthstone.gamepedia.com/Class>

Gamepedia. Hearthstone wiki

<http://hearthstone.gamepedia.com/Warrior>

Helppi, V-V. (2015) The agile process for mobile game development and testing

<http://testdroid.com/tech/the-agile-process-for-mobile-game-development-and-testing> (Read 17.4.2016)

Henry, D.R. (2009) Playtest Review

<https://www.rpg.net/reviews/archive/14/14175.phtml> (Read 25.5.2016)

IGN. (2006) The game production pipeline: concept to completion

<http://www.ign.com/articles/2006/03/16/the-game-production-pipeline-concept-to-completion> (Read 29.5.2016)

Meople's Magazine (2011) Collectible card games

<http://www.meoplesmagazine.com/2011/07/21/collectible-card-games/>
(Read 8.5.2016)

Meople's Magazine (2011) Deck building games

www.meoplesmagazine.com/2011/05/11/deck-building-games/ (Read 8.5.2016)

Quinn, Z. (2013) A beginner's guide to making your first video game

<http://kotaku.com/5979539/a-beginners-guide-to-making-your-first-video-game>

(Read 11.4.2016)

Rosewater, M. (2003) Bursting with flavor

<http://magic.wizards.com/en/articles/archive/making-magic/bursting-flavor-2003-02-24> (Read 30.5.2016)

Rosewater, M. (2011) Ten things every game needs

<http://magic.wizards.com/en/articles/archive/making-magic/ten-things-every-game-needs-part-1-part-2-2011-12-19> (Read 6.4.2016)

Rosewater, M. (2014) Lenticular Design

<http://magic.wizards.com/en/articles/archive/making-magic/lenticular-design-2014-12-15> (Read 6.4.2016)

Superdata (2010) Trading Card Game Industry

<https://superdataresearch.com/content/uploads/2009/08/TCG2010.pdf>
(Read 12.5.2016)

The international playing-card society. History of cards

<http://www.i-p-c-s.org/history.html> (Read 27.5.2016)

Wizards of the coast. Many ways to play

<http://magic.wizards.com/en/game-info/gameplay/rules-and-formats/formats>
(Read 15.5.2016)

Wizards of the coast. Magic Gameplay

<http://magic.wizards.com/en/game-info/gameplay/how-to-play>
(Read 15.5.2016)

Wizards of the coast. Magic is lore

<http://magic.wizards.com/en/content/new-to-magic/lore>

(Read 15.5.2016)

Wizards of the coast. Build your magic deck

<http://magic.wizards.com/en/game-info/gameplay/how-to-build-a-deck>

(Read 15.5.2016)

Ham, E. (2010) Rarity and power: Balance in collectible object games

<http://gamestudies.org/1001/articles/ham> (Read 30.5.2016)

List of figures

Figure 1. An example of a Hearthstone minion, in game screenshot

Figure 2. Deckbuilding in Hearthstone arena, in game screenshot

Figure 3. Common production pipeline, retrieved from

<http://www.e-games.tech.purdue.edu/GameDevProcess.asp>

Figure 4. A production cycle, retrieved from

<https://personanonymous.wordpress.com/2013/07/17/a-guidelines-of-game-development-life-cycle-v2-0/>

Figure 5. The Magic color wheel, retrieved

from http://mtgsalvation.gamepedia.com/File:Color_Wheel.jpg

Figure 6. Examples of magic cards, retrieved from

<http://gatherer.wizards.com/Pages/Card/Details.aspx?multiverseid=244313>

<http://gatherer.wizards.com/Pages/Card/Details.aspx?multiverseid=370786>

<http://gatherer.wizards.com/Handlers/Image.ashx?multiverseid=393980&type=card>

Figure 7. Hearthstone arena, in game screenshot

Figure 8. Hearthstone ranked play, in game screenshot

Figure 9. Card designs for the first prototype

Figure 10. Card designs for the second prototype

Figure 11. Early card concept art

Figure 12. Later card designs

Figure 13. Later card designs and card back concept